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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/682,749	10/12/2001	Safwat E. Tadros	08CV07409-1 (GP3-0039)	8016

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EXAMINER	
BISSETT, MELANIE D	

ART UNIT	PAPER NUMBER
1711	

DATE MAILED: 04/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/682,749	TADROS ET AL.	
	Examiner	Art Unit	
	Melanie D. Bissett	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 January 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2-18 and 20-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *2-18 and 20-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *0104*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. The rejections based on 35 USC 103 have been maintained.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 2-18 and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over MacGregor et al. in view of Susi.

4. From a prior Office action:

> MacGregor discloses multi-layer plastic composites comprising a substrate, including polycarbonate, and at least one layer of cycloaliphatic polyester, where decorative layers can be located between the substrate and surface layer (abstract). The reference indicates that the cycloaliphatic polyester resin itself may be colored or modified to be the decorative layer (col. 1 lines 39-46). Polyester resins include those which match the applicant's claimed formula (col. 4 lines 27-45), where a polyester having cyclohexane structures as part of the R groups is preferred (col. 4 lines 46-59). MacGregor teaches the use of triazine UV absorbers and hindered amine light stabilizers (HALS), indicating a useful amount of UV absorber as 0.05-10% by weight (col. 6 lines 20-67). The substrate film and surface layers may be coextruded, or blow molded (col. 10 lines 40-58). However, MacGregor does not specifically teach a low-volatility, hydroxyphenyl-triazine UV absorber or teach the applicant's specified UV absorber and HALS structures. Also, MacGregor does not specifically suggest the use of a PCCD decorative layer as an intermediate layer.
>
> Regarding the intermediate layer, the cycloaliphatic polyester materials of the invention are shown to have improved weatherability and solvent resistance. The reference teaches that intermediate layers may be incorporated as decorative layers and also that cycloaliphatic polyester materials may be colored or modified to act as a decorative layer. It is the examiner's position that it would have been prima facie obvious to apply more than one layer of the cycloaliphatic polyester composition to amplify the weatherability and solvent resistant properties of the film. The result would be a multi-layered structure having an intermediate and upper layer both comprising cycloaliphatic polyester.
>
> Susi discloses a method of stabilizing polymer film coatings or molded articles against light by incorporating a mixture of a tris-aryl-s-triazine UV absorber and HALS compound into a polymer binder (abstract). The UV absorber has at least one hydroxyphenyl group. Polyester is noted as a binder polymer (col. 4 lines 48-57). Susi teaches the use of oligomer substituted piperidine HALS (col. 8 line 49-col. 9 line 35), HALS compounds fitting the applicant's claimed

formula of claim 5 (col. 5 lines 20-51), and HALS compounds fitting the applicant's formula of claim 6 (col. 9 line 65-col. 11 line 24) in an amount of 0.01-5% by weight based on binder solids. The mixture of UV absorber and HALS compound provides improved gloss retention and weatherability compared to the use of individual additives (examples). Since MacGregor expressed interest in gloss retention and weatherability properties, it is the examiner's position that it would have been prima facie obvious to use an additive mixture by Susi's invention in the invention of MacGregor to further improve gloss retention and weatherability properties.

Regarding claim 19 limiting the intermediate layer to contain an additive, it is noted that MacGregor does not specifically teach incorporating an additive into an intermediate layer. However, the reference does teach colored and modified intermediate layers (col. 1 lines 38-46; col. 10 lines 40-54) and also suggests the use of additives in the substrate resin for coloration purposes (col. 10 lines 35-39). It is well known in the art to use dyes or pigments, including TiO_2, to color polymeric binders and form decorative layers. Therefore, it is the examiner's position that it would have been prima facie obvious to include dyes or pigments in the intermediate layer of MacGregor to provide a desired color or appearance in the decorative layer.

Regarding claim 9, Susi teaches a general tris-aryl-s-triazine formula (I), where certain species are preferred. Note that preferred compound (XIVB) is similar to the applicant's claimed formula, where Susi's compound has methyl substituents on two of the phenyl groups instead of one phenyl group. Susi's general formula (I) indicates that the substituents may be hydrogen atoms. It is the examiner's position that, given the similarity of the structures, the use of the applicant's claimed UV absorber, which is encompassed by Susi's formula (I), would provide equivalent results to the preferred compound of formula (XIVB). Therefore, it is the examiner's position that it would have been prima facie obvious to use a compound fitting the applicant's formula in Susi's invention in the expectancy of providing equally improved gloss retention and weatherability properties.

Regarding the claimed gloss, change in gloss, and change in color properties, MacGregor teaches PCCD laminates having a gloss of 99.7 after irradiation, with a change in gloss of about 8%. However, the testing conditions may differ from those of the applicant's claimed properties. Also, MacGregor does not teach change in color in the applicant's claimed range. It is the examiner's position that the combination of MacGregor's laminate using Susi's UV stabilizer mixture would encompass the applicant's claimed specific UV additives and laminate structure. Susi teaches the combination of specific UV absorbers and HALS as especially beneficial for improving gloss and weathering properties. Since similar articles would have similar properties, it is the examiner's position that the combination of MacGregor's laminate using Susi's UV stabilizer mixture would possess the applicant's claimed gloss and weathering properties.

Response to Arguments

5. In response to the applicant's argument that one of ordinary skill in the art would not look to improve the gloss retention of MacGregor because MacGregor teaches 100% gloss retention, it is first noted that the Susi examples show both improved gloss retention and improved yellowness index values when specific HALS and UVA materials are used. Thus, the yellowness index also contributes to the improved weatherability. It is also noted that MacGregor teaches the use of both UVA materials and HALS materials, citing triazines as preferred UVA materials. Susi teaches specific compounds that, when added, provide improved weathering properties. Since MacGregor is concerned with gloss and yellowness properties, one skilled in the art would look to teachings for maintaining or further improving these properties. Note that the MacGregor reference does not seem to specify time periods of weathering testing; it is the examiner's position that one skilled in the art would not see "100%" in MacGregor's results as absolute gloss retention for any given time period and would thus still look for further improvements.

6. Regarding the applicant's argument that the reference does not teach the significance of an intermediate layer as having improved weatherability, it is noted that the reference teaches the improved weatherability of the cycloaliphatic polyester materials. It has been the examiner's position that it would have been obvious to use cycloaliphatic polyester as both the intermediate and upper layers to amplify the weatherability properties. Thus, the improvement in weatherability due to the use of cycloaliphatic polyester is known in the art. In response to the applicant's arguments

that one of ordinary skill in the art would not recognize that weathering properties could be improved by additional coatings, the examiner respectfully disagrees. The MacGregor reference teaches the use of cycloaliphatic polyester surface coatings and also teaches intermediate decorative coatings. MacGregor has taught that the specified polyesters provide light stability for the polycarbonate substrates (col. 6 lines 20-26); the polyesters are used for their improved weatherability properties. Thus, an article having two layers of the polyester would have improved weatherability over articles having other intermediate layers. One of ordinary skill in the art would expect intermediate polyester layers to react less to weathering than other polymers, according to MacGregor. Although the surface coating forms the initial barrier, one of ordinary skill in the art would not expect the articles to be perfectly protected from weathering (see MacGregor's yellowness values). It is the examiner's position that one of ordinary skill in the art would recognize that an intermediate layer having improved weatherability properties would be beneficial, since other materials would eventually be susceptible to weathering. For these reasons, it is the examiner's position that it would be obvious to use polyester materials for the decorative and surface layers of the articles. The results would be amplified improved weathering properties.

7. In response to the applicant's arguments that the claims are drawn to upper and intermediate layers consisting essentially of specific ingredients, it has been the examiner's position that the MacGregor reference teaches an upper layer of cycloaliphatic polyester having a triazine absorber and a HALS component, a substrate, and an intermediate decorative layer. It has been the examiner's position that it would

be obvious to use the specific polyester compound for the intermediate layer and to use the claimed triazine absorber in the upper layer. Thus, the combination teaches the claimed specific layers without the need for additives not mentioned in the claim. Regardless, "consisting essentially of" does not exclude all additives other than those noted but only excludes additives that one of ordinary skill in the art would recognize as materially affecting the applicant's invention. The examiner has noted in a prior Office action that polycarbonate should be excluded from the intermediate and upper layers, since the applicants suggest reason for exclusion. However, the applicants do not guide one of ordinary skill in the art to exclude other additives due to their materially affecting the invention.

8. In response to the applicant's arguments of unexpected results, it is again noted that the improvement in weatherability due to the use of cycloaliphatic polyester is known in the art. The reference differs from the present independent claim by lacking specific suggestion of multiple layers of cycloaliphatic polyester and lacking suggestion of hydroxyphenyl-triazine or –pyrimidine. The examples cited by the applicant, formulations 3 and 6, differ from the claimed invention by using a different intermediate layer and by using the same upper layer without an intermediate layer. However, these examples are not commensurate in scope with the claims, since only one polymer and one UV absorber is exemplified. A trend cannot be observed from only one comparative composition. Unexpected benefits of using the claimed UV absorber over those shown in MacGregor, col. 6 lines 37-51 do not appear to have been given.

Regarding the applicant's argument that Suzi does not teach an intermediate layer, it is noted that Susi has been used as a secondary reference to provide teaching of a UV absorber. It is the examiner's position that it would have been obvious to include an intermediate layer based on the primary reference.

9. Regarding the applicant's arguments that the examiner has not pointed to reasons why the examples are not commensurate in scope with the claims, the examiner again notes that only one polymer and only one UV absorber are exemplified. The claims encompass all cycloaliphatic polyesters and all hydroxyphenyl triazines and hydroxyphenyl pyrimidines. One working example (on either of two substrates) does not suggest a trend over all cycloaliphatic polyesters and all specified UV absorbers. Because only two examples are now given (both having the same upper and intermediate layers), the examples are not commensurate in scope with the claims. Also, it is noted that the reasons for using the claimed UVA and HALS compositions in polyester compounds are known in the art. Thus, the results have not been shown to be *unexpected*. Susi shows that compositions using the claimed materials have improved gloss retention and yellowness index values. Also, MacGregor has taught the cycloaliphatic polyesters themselves to have improved weathering properties. Thus, one of ordinary skill in the art would also expect articles having cycloaliphatic polyesters to have improved weathering properties. As noted before, one of ordinary skill in the art *would* expect the intermediate layer to play a part in the overall weatherability of the article, since the outer layer is not expected to perfectly protect the underlayers. It is the

examiner's position that the showing of unexpected results is not sufficient to overcome the present rejection.

Conclusion

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie D. Bissett whose telephone number is (571) 272-1068. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mdb

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